

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,505,481 B2
APPLICATION NO. : 10/765204
DATED : March 17, 2009
INVENTOR(S) : Zhiqun He Shenzhen et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The title page showing an illustrated figure, should be deleted and substitute therefor the attached title page.

On the title page, drawing sheets should be changed to 11 drawings.

The drawing sheets consisting of figures 4, 4A, 5, 6 and 7 should be deleted to appear as per attached figures 4, 4A, 5, 6 and 7.

Signed and Sealed this

Seventeenth Day of August, 2010

A handwritten signature in black ink that reads "David J. Kappos". The signature is written in a cursive, flowing style with a large initial 'D' and a stylized 'K'.

David J. Kappos
Director of the United States Patent and Trademark Office

(12) **United States Patent**
He et al.

(10) **Patent No.:** **US 7,505,481 B2**
(45) **Date of Patent:** **Mar. 17, 2009**

(54) **SYSTEM AND METHOD OF ACCESSING AND TRANSMITTING DIFFERENT DATA FRAMES IN A DIGITAL TRANSMISSION NETWORK**

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(73) Assignee: **Huawei Technologies Co., Ltd., Shenzhen (CN)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1057 days.

(21) Appl. No.: **10/765,204**

(22) Filed: **Jan. 28, 2004**

(65) **Prior Publication Data**

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(30) **Foreign Application Priority Data**

Jan. 28, 2003 (CN) 03 1 03094

(51) **Int. Cl.**
H04J 3/22 (2006.01)

(52) **U.S. Cl.** 370/466; 370/395.52; 370/392; 370/474

(58) **Field of Classification Search** 370/466, 401, 402, 473, 389, 404, 395.52, 370/395.51, 392, 474; 709/220, 238, 224-230, 709/249; 713/153, 154; 726/12-15
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,541,853 A 7/1996 Croft

6,122,281 A 9/2000 Donovan et al.
2004/0076166 A1* 4/2004 Patenaude 370/401
2004/0258080 A1* 12/2004 He et al. 370/401
2005/0005029 A1* 1/2005 He et al. 709/249

FOREIGN PATENT DOCUMENTS

CN 1299546 A 6/2001

OTHER PUBLICATIONS

"Multiple Services Ring Based on RPR"; Telecommunication Standardization Sector, Study Group 17, TD 2132 Rev. 3; Study Period 2001-2004; Geneva 2002; International Telecommunication Union.

(Continued)

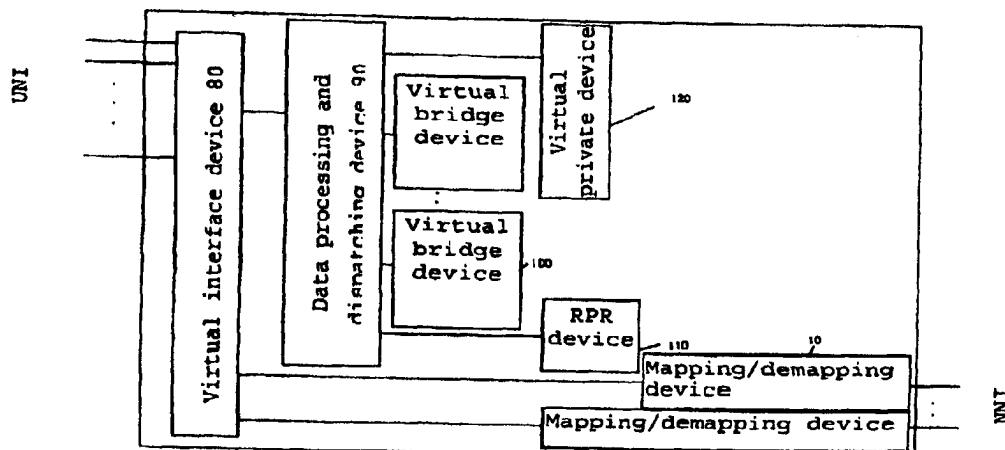
Primary Examiner—Jan N Moore

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(57) **ABSTRACT**

A system accessing and transmitting different data frames in a digital transmission network for accessing and transmitting different data frames, including: at least a user-network interface (UNI), which is used to couple with the user's network; at least a network-network interface (NNI), which is used to couple with the digital transmission network to transfer data; a data converting device, which is coupled with the UNIs and the NNIs to convert data formats between the UNIs, data formats between the NNIs, or data formats between the NNIs and the UNIs; wherein the data converting device includes a virtual interface device, the virtual interface device includes: at least two device interfaces, a virtual interface processing unit, a rule database, a control interface unit and an inter-device interface, so as to improve access ability of the device.

14 Claims, 11 Drawing Sheets



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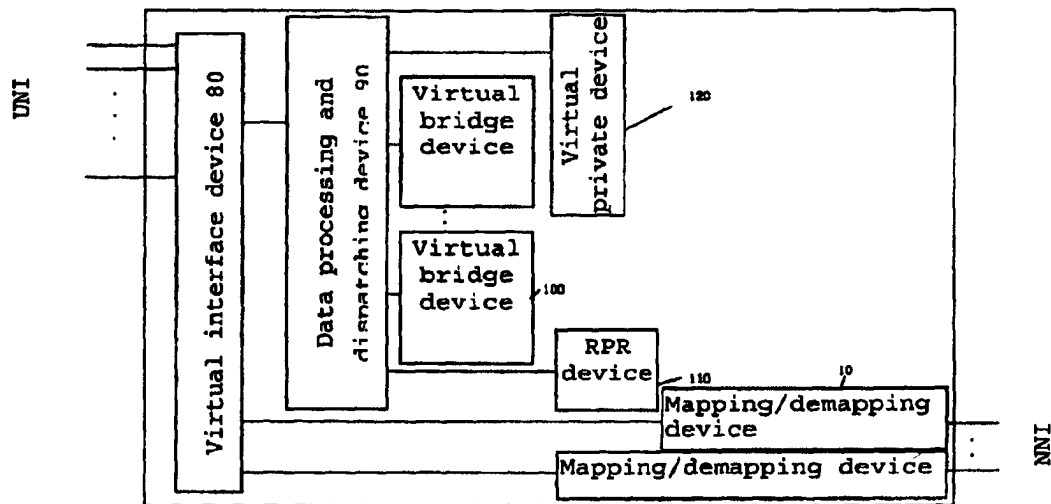


Fig.4

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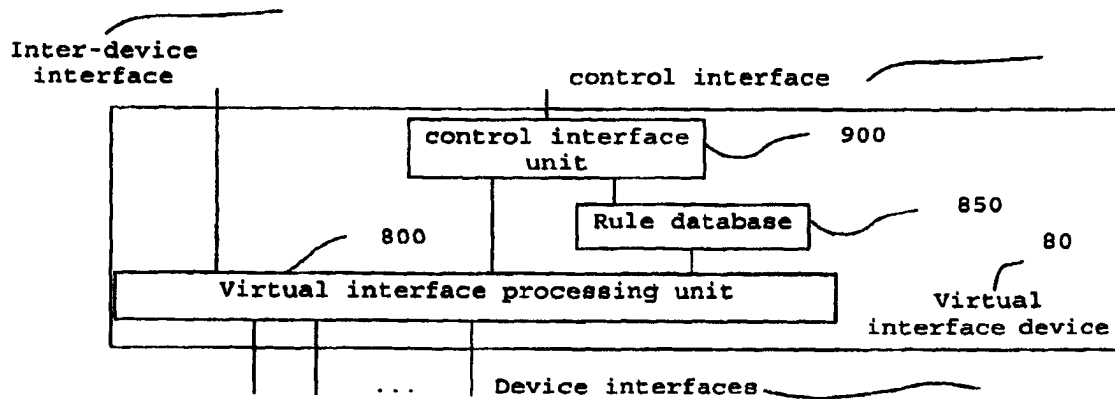


Fig.4A

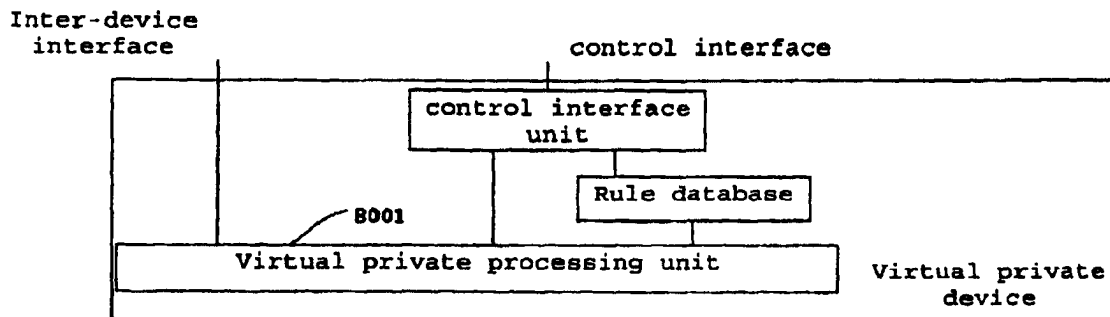


Fig.5

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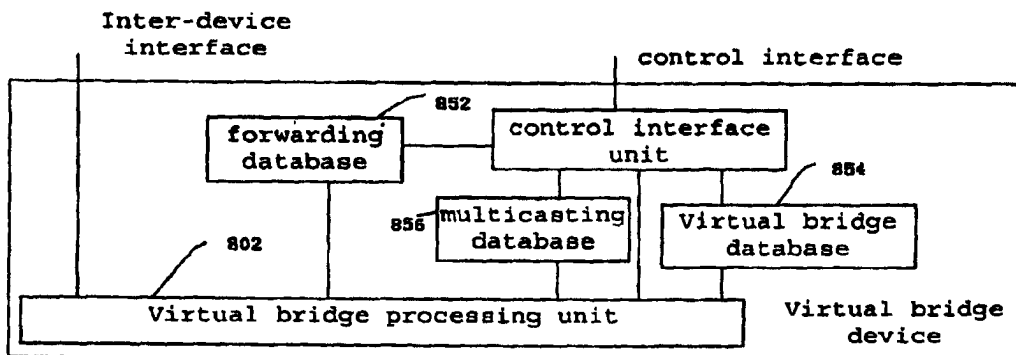


Fig.6

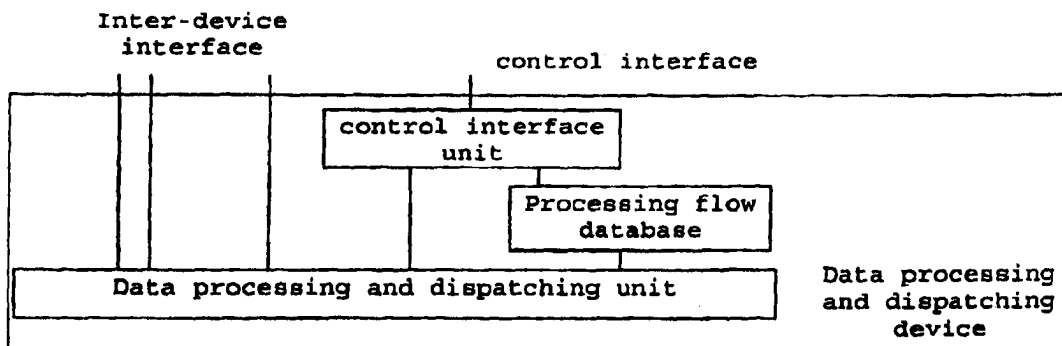


Fig.7